

NUMS 2025 Paper

Some Questions

Q. Direction of angular velocity can be found by:

- a. Right-hand rule**
- b. Fleming's left-hand rule**
- c. Lenz's law**
- d. Faraday's law**

Q. Arthropoda are 54% of all animals due to which feature?

- a. Segmented body**
- b. Jointed appendages**
- c. Exoskeleton**
- d. Bilateral symmetry**

Q. In the human body, Ceruloplasmin acts as a carrier for?

- a. Iron**
- b. Copper**

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c. Sodium

d. Magnesium

***Correct Answer:* b. Copper**

***Explanation:* *Ceruloplasmin* is the major copper-carrying protein in the blood and also plays a role in iron metabolism by oxidizing Fe^{2+} to Fe^{3+} .**

Q. In the human body, Ferritin is used to store?

Options:

a. Calcium

b. Zinc

c. Iron

d. Copper

***Correct Answer:* c. Iron**

***Explanation:* *Ferritin* is a protein complex that stores *iron* and releases it in a controlled manner, playing a key role in iron homeostasis.**

Q. The fourth state of matter is?

Options:

a. Solid

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b. Liquid

c. Gas

d. Plasma

***Correct Answer:* d. Plasma**

***Explanation:* *Plasma* is the fourth state of matter consisting of ionized gases with free electrons and ions. It occurs naturally in stars and lightning.**

Q. Which phylum developed the first true coelom?

Options:

a. Platyhelminthes

b. Annelida

c. Arthropoda

d. Mollusca

***Correct Answer:* b. Annelida**

Explanation:* *Annelida* is the first phylum to develop a ***true coelom (body cavity completely lined by mesoderm), which allows for better organ development and body segmentation.**

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Q. Which of the following has the least ionization energy?

Options:

- a. Mg**
- b. Ar**
- c. Si**
- d. Se**

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***Correct Answer:* a. Mg**

***Explanation:* *Magnesium (Mg)* has the lowest ionization energy among the given elements because it is a metal with a larger atomic radius and fewer electrons to lose compared to non-metals like Ar, Si, and Se.**

Q. Part of brain that controls coordination and stores memory for behaviour is:

Options:

- a. Cerebrum**
- b. Cerebellum**
- c. Pons**
- d. Medulla**

***Correct Answer:* b. Cerebellum**

***Explanation:* The *cerebellum* coordinates voluntary movements, balance, and posture. It also stores memory for learned motor behaviours like riding a bike or playing an instrument.**

Q. Racemic mixture in SN1 is due to empty orbital:

Options:

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- a. S
- b. P
- c. Sp^3
- d. Sp^2

Correct Answer: *b. P

Explanation: In $SN1$ reactions, the carbocation intermediate has an empty ***p-orbital***, allowing the nucleophile to attack from either side, resulting in a racemic mixture.

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***Correct Answer: *b.* Jointed appendages**

Explanation: Jointed appendages allow arthropods to move efficiently and adapt to various environments, contributing to their evolutionary success and dominance.

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Q. Bursting of iron is an example of which process?

Options:

- a. Adiabatic**
- b. Isochoric**
- c. Isothermal**
- d. Isobaric**

Correct Answer: a. Adiabatic

Explanation: In an adiabatic process, no heat is exchanged with the surroundings. The sudden bursting of iron involves rapid expansion without heat transfer, making it adiabatic.

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Correct Answer: a. Right-hand rule

Explanation: The ***right-hand rule*** is used to determine the direction of angular velocity by curling fingers in the direction of rotation; the

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thumb points in the direction of the angular velocity vector.

Q. The process in which unwanted structures are engulfed by the cell is called...?

Options:

- a. Autophagy**
- b. Autolysis**
- c. Phagocytosis**
- d. Endocytosis**

Correct Answer: a. Autophagy

Explanation: Autophagy is the process where the cell digests its own damaged or unnecessary components using lysosomes, maintaining cellular health.

1.What is size of procaine filter in

A.10-100 nm

B.100-1000nm

C.10-100 micro meter

`Correct answer is 10-100nm`

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2. Resistivity of copper is

1.54×10^{-8}

1.34×10^{-8}

1.45×10^{-8}

1.64×10^{-8}

`Correct answer is 1.34×10^{-8} ohm.m`

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`Correct answer is Adiabatic`

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Q. If velocity is doubled, what happens to kinetic energy?

Options:

- a. Remains same**
- b. Doubles**
- c. Quadruples**
- d. Halves**

Correct Answer: c. Quadruples

Explanation: Kinetic energy (KE) = $\frac{1}{2} mv^2$. If velocity (v) doubles, KE becomes $\frac{1}{2} m(2v)^2 = 4 \times \frac{1}{2} mv^2$, so kinetic energy ***quadruples***.

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Q Which of the following symptom of AIDS disappears after sometime

- A) Swollen lymph nodes**
- B) Weight loss**
- C) Night sweats**
- D) Loss of appetite**

Q. If mass is doubled, what happens to cyclotron frequency?:

- a. Remains same**
- b. Doubles**
- c. Halves**
- d. Quadruples**

Q. Gene linkage is confirmed by:

- a. Test cross**
- b. Dihybrid cross**
- c. Monohybrid cross**
- d. Back cross**

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Q. Which element has the least boiling point?

- a. Li**
- b. K**
- c. Na**
- d. Rb**

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- a. Remains same**
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Q One kilowatt hour is equal to

- 3.6MJ**
- 3.6KJ**
- 3.6MW**
- 3.6KW**

Q which of the following rays used to destroy bacteria and insects

- a uv rays**

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b gamma rays

c alpha rays

d beta rays

Q Mismatched pair

A) Enterokinase - lipase

B) Chylomicrons - carbs

C) Emulsification - fat droplets

D) Acetylcholine - gastrin

Q Function of WOF will be affected incase of impairment of smooth muscles?

A Heart

B Lungs

C Stomach

D Tongue

Q Which ions are involved in synaptic transmission?

A.Na,K,Ca

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B.Na,K

C.Ca,Na

D. Ca,K

Q A waman cut her hand which of these causes inflammation

Histamine

Interlukin 1

Interlukin 2

Q — female lion is called ____ lioness

A a

The a

The the

The a

Q Value of Kc for O₃

10²⁵

10⁵⁵

10⁶⁶

**Q Same substances present in blood and lymph
cO₂ and larger proteins**

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Rbc amino acid and electrolytes

Rbc Co₂ water

Glucose Co₂ water

Q Oxytocin and adh are

..... Peptide of Amino acid 9 8 7 2

Bacteria which grow in oxygen and in absnece of oxygen environment is known as

A. faculative anaerobic

B. aerobic

C. anaerobic